COFC

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patentees:	Richard W. Anderson et al.
Patent No.:	6,841,557 B2
Issued:	January 11, 2005
Serial No.:	09/929,666
Filed:	August 14, 2001
Title:	COMPOUNDS FOR THE TREATMENT OF ADDICTIVE DISORDERS
Group Art Unit:	1614
Examiner:	Vickie Y. Kim

Attorney Docket No.: 29915/00287AUS

I hereby certify that this paper is being deposited with the United States Postal Service, with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on **February 28, 2006**.

Sandip H. Patel (Reg. No. 43,848)
Attorneys for Applicants

REQUEST FOR CERTIFICATE OF CORRECTION PURSUANT TO 37 C.F.R. § 1.322

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Attn: Certificates of Correction Branch

Dear Sir:

The patentees and the assignee, through their undersigned attorney, respectfully request issuance of a certificate of correction correcting the above-identified U.S. patent as noted in the attached Certificate of Correction (Form PTO-1050). Attached hereto as Exhibit "A" are copies of the patent's cover page and other pages of the patent, where printing errors attributable to the U.S. Patent and Trademark Office (the "Patent Office") occur. Copies of pages from the supplemental examiner's amendment dated April 16, 2004 (Exhibit "B"), and the applicants' amendment dated January 30, 2004 (Exhibit "C"), referred to below are also attached.

The text at column 12, line 26 (claim 1), of the patent contains a printing error attributable to the Patent Office. Specifically, at column 12, line 26, the recitation "C—S," should be --C=S,--. This error in the patent may be verified by reference to page 3, line 13 (claim 1), of the supplemental examiner's amendment, which contains the proper recitation.

The text at column 12, line 30 (claim 1), of the patent contains a printing error attributable to the Patent Office. Specifically, at column 12, line 30, the recitation "O; and" should be --O;--. This error in the patent may be verified by reference to page 3, line 15 (claim 1), of the supplemental examiner's amendment, which contains the proper recitation.

The text at column 12, line 36 (claim 2), of the patent contains a printing error attributable to the Patent Office. Specifically, at column 12, line 36, the recitation "NH, n" should be --NH, and n--. This error in the patent may be verified by reference to page 3, line 2 (claim 3), of the applicants' amendment, which contains the proper recitation.

The text at column 12, line 38 (claim 2), of the patent contains a printing error attributable to the Patent Office. Specifically, at column 12, line 38, the recitation "C—NHCOOCH—," should be --C-NHCOOCH$_3$,--. This error in the patent may be verified by reference to page 3, line 5 (claim 3), of the applicants' amendment, which contains the proper recitation.

The attached Certificate of Correction corrects the foregoing errors.

In view of the foregoing, the patent has issued with printing errors attributable to the Patent Office and, therefore, the patentees and the assignees of the patent respectfully request the issuance of a certificate of correction.

Should the Patent Office wish to discuss the foregoing, or any matter of form or procedure in an effort to advance issuance of a certificate of correction, the Patent Office is urged to contact the undersigned attorney.

Respectfully submitted,

MARSHALL, GERSTEIN & BORUN LLP

February 28, 2006 By: _____

Sandip H. Patel (Reg. No. 43,848)
Attorneys for Patentee
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PTO/SB/44 (02-01)
Approved for use through 01/31/2004. OMB 0651-0033
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,841,557 B2

DATED : January 11, 2005

INVENTOR : Richard W. Anderson et al.

It is certified that errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Col. 12, line 26: Please delete "C—S," and insert --C=S,-- in its place.

Col. 12, line 30: Please delete "O; and" and insert --O;-- in its place.

Col. 12, line 36: Please delete "NH, n" and insert --NH, and n-- in its place.

Col. 12, line 38: Please delete "C—NHCOOCH—," and insert --C-NHCOOCH$_3$,-- in its place.

MAILING ADDRESS OF SENDER:
Sandip H. Patel
MARSHALL, GERSTEIN & BORUN LLP
233 S. Wacker Drive, Suite 6300
Sears Tower
Chicago, Illinois 60606-6357

PATENT NO.: 6,841,557 B2

No. of additional copies:

US006841557B2

(12) **United States Patent**
Anderson et al.

(10) **Patent No.: US 6,841,557 B2**
(45) **Date of Patent: Jan. 11, 2005**

(54) **COMPOUNDS FOR THE TREATMENT OF ADDICTIVE DISORDERS**

(75) Inventors: **Richard W. Anderson**, Annandale, NJ (US); **Sylvia S. McBrinn**, Stockton, NJ (US); **David W. Robertson**, Galesburg, MI (US); **Robert C. Marshall**, Mattawan, MI (US)

(73) Assignee: **Pharmacia & Upjohn**, Kalamazoo, MI (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/929,666**

(22) Filed: **Aug. 14, 2001**

(65) **Prior Publication Data**

US 2002/0049206 A1 Apr. 25, 2002

Related U.S. Application Data

(60) Provisional application No. 60/263,610, filed on Jan. 23, 2001, and provisional application No. 60/225,714, filed on Aug. 16, 2000.

(51) **Int. Cl.**[7] **A61K 31/44**

(52) **U.S. Cl.** **514/294**; 514/292; 514/293; 514/290

(58) **Field of Search** 514/290, 292, 514/293, 294

(56) **References Cited**

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* cited by examiner

Primary Examiner—Vickie Kim
(74) *Attorney, Agent, or Firm*—Pharmacia & Upjohn Company; Thomas A. Wootton

(57) **ABSTRACT**

The treatment of addictive disorders, psychoactive substance use disorders, intoxication disorders, inhalation disorders, alcohol addiction, tobacco addiction, and nicotine addiction using a heterocyclic amine, a phenylazacycloalkane, a cabergoline, or an aromatic bicyclic amine active agent, or a pharmaceutically acceptable derivative or salt of any said active agent is described herein.

12 Claims, No Drawings

higher starting doses. The dose is then titrated up to higher levels until a suitable therapeutic effect is achieved.

The effective dose range can be from 0.01 mg/day to about 10.0 mg/day per patient for a heterocyclic amine, phenylazacycloalkane, cabergoline, or cabergoline-type derivative. The preferred effective dose is an amount of the active agent between about 0.125 mg/day and about 6 mg/day. The more preferred effective dose is an amount of the active agent between about 0.375 mg/day to about 5 mg/day. An especially preferred effective dose is an amount of the active agent between about 0.75 mg/day and 4.5 mg/day to a patient. In addition to being administered by oral or intravenous route, the active agent also can be administered transdermally or by inhalation.

In the practice of the invention, typically a starting dose of about 0.125 mg/day, administered three times per day, is incrementally increased every five to seven days until optimal therapeutic effect is achieved. The dosage can be titrated to achieve a maximal therapeutic effect, provided that the patient does not experience intolerable side effects. One ordinarily skilled in art of providing medicine, such as a physician or pharmacist can determine the optimal dosage level after considering a patient's age, size, medical history, responsiveness to and toleration for the drug.

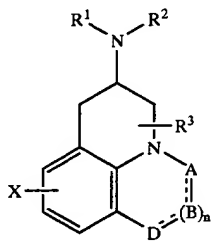
Addictive disorders and psychoactive substance use disorders, such as intoxication disorders, inhalation disorders, alcohol addiction, tobacco addiction and/or nicotine addiction can be treated according to the invention. Tobacco and nicotine addiction would be treated with the goal of achieving either smoking cessation or at least a reduction in the intake of tobacco and/or nicotine. General descriptions of addictive disorders, including disorders related to intoxication, inhalants, and tobacco addiction or nicotine addiction can be found in many standard sources. The addictions and behaviors that can be treated by the invention generally are further described in, for example, *The American Psychiatric Press Textbook of Psychiatry, Second Edition*, edited by Robert E. Hales, Stuart C. Yudofsky, and John A. Talbott, 1994, incorporated by reference, especially pp. 401 et. seq., section on "Nicotine" incorporated by reference; and *Manual of Psychiatric Therapeutics, Second Edition*, edited by Richard I. Shader, incorporated by reference, especially pp. 85 from Chapter 11, entitled "Hypnosis".

The method is particularly useful for the treatment of and relief from alcohol and other psychoactive substance use disorders such as, for example, disorders related to intoxication or inhalants, more particularly tobacco or nicotine addiction. The effect of the invention on tobacco addiction more particularly involves the administration of the active agent in a manner and form that reduces the symptoms of the disease. In particular, the tobacco- and/or nicotine-related aspect of the invention can be used to reduce or stop the smoking or chewing of nicotine-containing materials by a patient.

Without further elaboration, it is believed that one skilled in the art can, using the preceding description, practice the invention to its fullest extent. Those skilled in the art will promptly recognize appropriate variations from the procedures both as to reactants and as to reaction conditions and techniques.

What is claimed is:

1. A method of treating or suppressing the symptoms of addictive disorders selected from the group consisting of alcohol addiction, tobacco addiction, nicotine addiction, and intoxication and inhalation disorders associated with alcohol, tobacco and nicotine addiction, said method comprising the step of administering to a patient in need of treatment a therapeutically effective, nontoxic amount of an active agent wherein the active agent is a heterocyclic amine of the formula:



or a pharmaceutically acceptable salt thereof, wherein:

R^1, R^2, and R^3 are each independently hydrogen, C_{1-6} alkyl, C_{3-5} alkenyl, C_{3-5} alkynyl, C_{3-7} cycloalkyl, C_{4-10} cycloalkyl- or phenyl-substituted C_{1-6} alkyl, or R^1 and R^2 are joined to form a C_{3-7} cyclic amine which can contain additional heteroatoms and/or unsaturation;

n is 0 or 1;

X is hydrogen, C_{1-6} alkyl, halogen, hydroxy, alkoxy, cyano, carboxamide, carboxyl, or carboalkoxyl;

A is CH, CH_2, CH-halogen, $CHCH_3$, C=O, C—S, C—SCH_3, C=NH, C—NH_2, C—$NHCH_3$, C—$NHCOOCH_3$, C—NHCN, SO_2, or N;

B is CH_2, CH, CH-halogen, C=O, N, NH, N—CH_3, or O; and

D is CH_2, CH, CH-halogen, C=O, O, N, NH, or N—CH_3.

and pharmaceutically acceptable derivatives or salts of said active agent.

2. The method of claim 1, wherein:

D is N or NH, n is 0; or

A is CH, CH_2, $CHCH_3$, C=O, C=S, C—SCH_3, C=NH, C—NH_2, C—$NHCH_3$, C—NHCOOCH—, or C—NHCN.

3. The method of claim 1 wherein the active agent is selected from the group consisting of:

(5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij] quinolin-2(1H)-one;

(5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij] quinoline-2(1H)-thione;

(5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij] quinoline-2(1H)-thione maleate; and

(5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij] quinoline-2(1H)-thione 2-butenedioanate.

4. The method of claim 1 wherein the active agent is used to treat or enhance the treatment of tobacco and/or nicotine addiction.

5. The method of claim 1 wherein the active agent is used to reduce the craving for tobacco and/or nicotine containing products.

6. The method of claim 1 wherein the active agent is used to reduce the smoking and/or chewing of tobacco or nicotine-containing products.

7. The method of claim 1 wherein the active agent is administered to the patient three times a day.

8. The method of claim 1 wherein the active agent is administered in a dose of about 0.01 mg/day to about 10.0 mg/day.

9. The method of claim 8 wherein the active agent is administered in a dose of about 0.125 mg/day to about 6 mg/day.

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,666	08/14/2001	Richard W. Anderson	28341/00287A	9424

4743 7590 04/16/2004

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CHICAGO, IL 60606

EXAMINER	
KIM, VICKIE Y	
ART UNIT	PAPER NUMBER
1614	

DATE MAILED: 04/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Supplemental Notice of Allowability	Application No. 09/929,666	Applicant(s) ANDERSON ET AL.
	Examiner Vickie Kim	Art Unit 1614

-- ***The MAILING DATE of this communication appears on the cover sheet with the correspondence address--***

laims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included :with (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS TICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative ıe Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

☒ This communication is responsive to *telephonic conversation(interview) on 4/5/04*.

☒ The allowed claim(s) is/are *1,3,4 and 13-21*.

☐ The drawings filed on _____ are accepted by the Examiner.

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

plicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements ted below. Failure to timely comply will result in ABANDONMENT of this application.
IIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

dentifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of :ach sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

chment(s)

| Notice of References Cited (PTO-892)

| Notice of Draftperson's Patent Drawing Review (PTO-948)

| Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

| Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *4/14/03*.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

VICKIE KIM
PRIMARY EXAMINER

Vickie Kim
Primary Examiner
Art Unit: 1614

Interview Summary	Application No.	Applicant(s)	
	09/929,666	ANDERSON ET AL.	
	Examiner	Art Unit	
	Vickie Kim	1614	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Vickie Kim*. (3)_____.

(2) *Mr. Patel, Sandyp*. (4)_____.

Date of Interview: *05 April 2004*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☐ No.
If Yes, brief description: _____.

Claim(s) discussed: *1*.

Identification of prior art discussed: _____.

Agreement with respect to the claims f)☐ was reached. g)☐ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *See Continuation Sheet*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

Supplemental Examiner's Amendment

1. Acknowledgement is made of applicant's request to correct the inadvertent typographical errors made in previous office action(see communication mailed 3/25/04). The applicant's request is verified and considered to be reasonable. The terms(i.e. hydroxy in line 15, C=S in line 17 and "or" in line 20) in question were missing when the claim 1 is copied from original claim 1. The missing terms should be reinstated without question the validity of patentability of the claims and the patentability should be maintained as valid.

2. This supplemental office action is supercedes any office action previously issued.

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

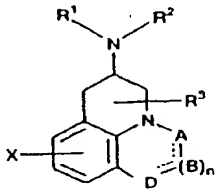
Authorization for this examiner's amendment was given in a telephone interview with Mr. Patel, Sandip on 3/10/04.

4. The application has been amended as follows:

a. Replace the claim 1 with newer amended version as following:

--- Claim 1 (currently amended): A method of treating or suppressing the symptoms of addictive disorders selected from the group consisting of alcohol addiction, tobacco addiction, nicotine addiction, and intoxication and inhalation disorders associated with alcohol, tobacco and nicotine addiction, said method

comprising the step of administering to a patient in need of treatment a therapeutically effective, nontoxic amount of an active agent wherein the active agent is a heterocyclic amine of the formula:



or a pharmaceutically acceptable salt thereof, wherein:

R^1, R^2 and R^3 are each independtly hydrogen, C_{1-6} alkyl, C_{3-5} alkenyl, C_{3-5} alkynyl, C_{3-7} cycloalkyl, C_{4-10} cycloalkyl- or phenyl- substituted C_{1-6} alkyl, or R^1 and R^2 are joined to form a C_{3-7} cyclic amine which can contain additional heteroatoms and/or unsaturation;

n is 0 or 1;

X is hydrogen, C_{1-6} alkyl, halogen, hydroxy, alkoxy, cyano, carboxamide, carboxyl, or carboalkoxyl;

A is CH, CH_2, CH-halogen, $CHCH_3$, C=O, C=S, $C\text{-}SCH_3$, C=NH, $C\text{-}NH_2$, $C\text{-}NHCH_3$, $C\text{-}NHCOOCH_3$, C-NHCN, SO_2, or N;

B is CH_2, CH, CH-halogen, C=O, N, NH, $N\text{-}CH_3$, or O;

D is CH_2, CH, CH-halogen, C=O, O, N, NH, or $N\text{-}CH_3$;

and pharmaceutically acceptable derivatives or salts of said active agent. ---

b. In claim 17, lines 2-3, delete the phrase [selected from the group consisting of a heterocyclic amine, a phenylazacycloalkane, and a cabergoline] right before "administered".

c. In claim 18, lines 2-3, delete the phrase [selected from the group consisting of a heterocyclic amine, a phenylazacycloalkane, and a cabergoline] right before "administered".

Conclusion

5. All the pending claims are allowed.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vickie Kim whose telephone number is 571-272-0579(fax: 571-273-0579). The examiner can normally be reached on Tuesday-Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marianne Seidel can be reached on 571-272-0584. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-746-3165 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.

VICKIE KIM
PRIMARY EXAMINER

Vickie Kim
April 13, 2004
Art unit 1614

IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE

Applicants: Richard W. Anderson et al.
Serial No.: 09/929,666
Filed: August 14, 2001
Title: COMPOUNDS FOR THE TREATMENT OF NERVOUS DISORDERS
Group Art Unit: 1614
Examiner: Vickie Y. Kim
NEW Atty. Docket No.: 29915/00287A

I hereby certify that this paper is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on **January 30, 2004**.

Sandip H. Patel (Reg. No. 43,848)
Attorney for Applicants

AMENDMENT "A"

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

In response to the official action of September 3, 2003, please amend the above-identified patent application as set forth herein.

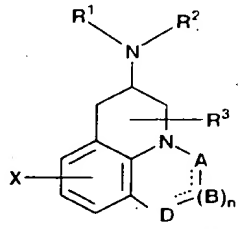
Amendments to the claims begin on page **2** of this paper.

Remarks begin on page **5** of this paper.

In the Claims:

The following listing of claims will replace any/all prior versions, and listings, of claims in the application:

Claim 1 (Currently Amended): A method of treating or suppressing the symptoms of at least one disorder selected from addictive disorders, psychoactive substance use disorders, intoxication disorders, inhalation disorders, alcohol addiction, tobacco addiction, and nicotine addiction, said method comprising the step of administering to a patient in need of treatment a therapeutically effective, nontoxic amount of an active agent selected from the group consisting of a phenylazacycloalkane, a cabergoline, an aromatic bicyclic amine and a heterocyclic amine of the formula:



or a pharmaceutically acceptable salt thereof, wherein:

R^1, R^2, and R^3 are each independently hydrogen, C_{1-6} alkyl, C_{3-5} alkenyl, C_{3-5} alkynyl, C_{3-7} cycloalkyl, C_{4-10} cycloalkyl- or phenyl- substituted C_{1-6} alkyl, or R^1 and R^2 are joined to form a C_{3-7} cyclic amine which can contain additional heteroatoms and/or unsaturation;

n is 0 or 1;

X is hydrogen, C_{1-6} alkyl, halogen, hydroxy, alkoxy, cyano, carboxamide, carboxyl, or carboalkoxyl;

A is CH, CH_2, CH-halogen, $CHCH_3$, C=O, C=S, $C\text{-}SCH_3$, C=NH, $C\text{-}NH_2$, $C\text{-}NHCH_3$, $C\text{-}NHCOOCH_3$, C-NHCN, SO_2, or N;

B is CH_2, CH, CH-halogen, C=O, N, NH, $N\text{-}CH_3$, or O;

D is CH, CH_2, CH-halogen, C=O, O, N, NH, or $N\text{-}CH_3$; ~~and a phenylazacycloalkane, a cabergoline, an aromatic amine~~

and pharmaceutically acceptable derivatives or salts of any said active agent.

Claim 2 (canceled)

Claim **3** (Currently Amended): The method of claim 1 **2**, wherein:

D is N or NH, and n is 0~~, and R^1, R^2, R^3, X, A, and B are as defined in claim 2~~; or

A is CH, CH_2, $CHCH_3$, C=O, C=S, C-SCH_3, C=NH, C-NH_2, C-$NHCH_3$, C-$NHCOOCH_3$, or C-NHCN~~, and R^1, R^2, R^3, n, X, B, and D are as defined in claim 2; or~~

~~A is CH or C=O, and R^1, R^2, R^3, n, X, B, and D are as defined in claim 2~~ .

Claim **4** (Currently Amended): The method of claim 1 **2** wherein the active agent is selected from the group consisting of:

~~(5R)-5-(methylamino)-5,6-dihydro-4H-imidao[4,5,1-ij]quinolin-(2H)-one~~ (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinolin-2(1H)-one;

(5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione;

(5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione maleate; and

(5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione 2-butenedioanate.

Claims **5-12** (Canceled).

Claim **13** (Original): The method of claim **1** wherein the active agent is used to treat or enhance the treatment of tobacco and/or nicotine addiction.

Claim **14** (Original): The method of claim **1** wherein the active agent is used to reduce the craving for tobacco and/or nicotine containing products.

Claim **15** (Original): The method of claim **1** wherein the active agent is used to reduce the smoking and/or chewing of tobacco or nicotine-containing products.

Claim **16** (Original): The method of claim **1** wherein the active agent is administered to the patient three times a day.

Claim **17** (Original): The method of claim **1** wherein the active agent is selected from the group consisting of a heterocyclic amine, a phenylazacycloalkane, and a cabergoline administered in a dose of about 0.01 mg/day to about 10.0 mg/day.

Claim **18** (Original): The method of claim **17** wherein the active agent is selected from the group consisting of a heterocyclic amine, a phenylazacycloalkane, a cabergoline, and a cabergoline-type derivative administered in a dose of about 0.125 mg/day to about 6 mg/day.

Claim **19** (Original): The method of claim **18** wherein the active agent is administered in an amount from about 0.375 mg/day to about 5 mg/day.

Claim **20** (Original): The method of claim **19** wherein the active agent is administered in an amount from about 0.75 mg/day to about 4.5 mg/day.

Claim **21** (Original): The method of claim **17** wherein an initial dose of active agent of about 0.125 mg/day administered to the patient three times a day is titrated to higher levels every five to seven days until therapeutic effect is achieved.

Claims **22-25** (Canceled).

REMARKS

This paper is being presented in response to the non-final official action of September 3, 2003, wherein: (**a**) claims 1-25 are pending; (**b**) claims 5-12 and 22-25 have been withdrawn from consideration pursuant to a restriction requirement; (**c**) claims 1 and 17-21 have been rejected under 35 U.S.C. § 112, ¶ 1, as lacking an enabling disclosure; (**d**) claims 1-4 and 16-21 have been rejected under 35 U.S.C. § 112, ¶ 2, as being indefinite; and, (**e**) claims 2-4 and 17-21 have been identified as containing allowable subject matter and "would be allowable if rewritten to overcome the § 112 rejections and to include all of the limitations of the base claim and any intervening claim(s)." Reconsideration and withdrawal of the rejections are respectfully requested in view of the foregoing amendments and following remarks.

This paper is timely filed as it is accompanied by a petition under 37 C.F.R. § 1.136(a) for an extension of time to file in the second month, and payment of the required extension fee.

A supplemental information disclosure statement was submitted on October 3, 2003. Consideration of that information disclosure statement and the documents identified therein and enclosed therewith are requested with the next action on the merits.

II. Brief Summary of the Amendments to the Claims

Independent claim 1 has been amended to incorporate the limitations of claim 2 and, accordingly, claim 2 has been canceled. Support for the amendment can be found in the specification at, for example, page 4, line 12 to page 5, line 7, wherein a formula of a heterocyclic amine is given. Dependent claim 3 has been amended to depend directly from independent claim 1 and to omit redundant recitations. Dependent claim 4 has been amended to correct typographical errors that appear in the first of the four agents recited as part of the Markush group. Specifically, the claim has been amended to change "imidao" to --imidazo-- and "(2H)" to --2(1H)--. In view of the amendment, the first of the four groups is now correctly recited in the claim as "(5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinolin-2(1H)-one." Support for the amendment can be found in the specification at, for example, page 6, lines 23-25, wherein the group is identified with its correct spelling and punctuation.

Withdrawn claims 5-12 and 22-25 have been canceled, without prejudice.

No new matter is introduced by the claim amendments.

III. The 35 U.S.C. § 112, ¶ 1, Rejections is Traversed

Claims 1 and 17-21 have been rejected under 35 U.S.C. § 112, ¶ 1, as lacking an enabling disclosure. Specifically, the action states that the specification is "enabling for a method of treating symptoms claimed using a heterocyclic amine of the formula I claimed (recited in claims 2-4)." *See* p. 3 of the action. Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 1 has been amended to recite the heterocyclic amine of formula I as recited in claim 2, which the Patent Office acknowledges is enabled. Claims 17-21 which depend directly or indirectly from claim 1 also recite this limitation. Consequently, the scope of amended claim 1 and claims 17-21 is properly enabled under 35 U.S.C. § 112, ¶ 1.

IV. The 35 U.S.C. § 112, ¶ 2, Rejection is Traversed

Claims 1-4 and 16-21 have been rejected under 35 U.S.C. § 112, ¶ 2, as being indefinite. Specifically, the action states:

> Where applicant acts as his or her own claim languages to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "psychoactive substance use disorders, inhalation disorders or intoxication disorders" in claim 1 is used by the claim to mean "disorders caused by psychoactive substance overuse, inhalation overuse or intoxication", while the accepted meaning is "disorders requiring psychoactive substance use, inhalation use or disorders causing intoxication, respectively." The term is indefinite because the specification does not clearly redefine the term.

See pp. 7 and 8 of the action. Reconsideration and withdrawal of the rejection are respectfully requested.

The applicants have *not* used these terms contrary to their ordinary meaning. For example, a "psychoactive substance use disorder" is meant to refer to a disorder caused by the use of a psychoactive substance. Furthermore, an intoxication disorder is meant to refer to a disorder resulting from intoxication. Still further, an "inhalation disorder" is meant to refer to a disorder resulting from inhalation of tobacco and/or other nicotine-containing products. In view of these readily-understood meanings and because the specification does not attempt to redefine these terms, claim 1 (and all claims dependent therefrom) are sufficiently definite such that the § 112, ¶ 2, rejection should be withdrawn. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

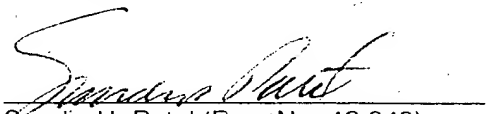
CONCLUSION

In view of the foregoing, cancellation of claims 2, 5-12, and 22-25, entry of the amendments to claims 1, 3, and 4, reconsideration and withdrawal of the rejections, and allowance of all pending claims 1, 3, 4, and 13-21 are respectfully requested.

Should the examiner wish to discuss the foregoing, or any matter of form or procedure in an effort to advance this application to allowance, she is urged to contact the undersigned attorney.

Respectfully submitted,

MARSHALL, GERSTEIN & BORUN LLP

January 30, 2004 By: 

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